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Notice of Allowability

Application No.

10/770,888

Examiner

Michael W. Talbot

Applicant(s)

SCHULTE, PAUL MARTIN

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3722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 11 October 2006.
2. ☒ The allowed claim(s) is/are 1-5, 7-31 and 33-38.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

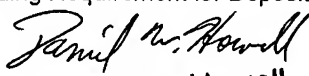
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


Daniel W. Howell
Primary Examiner
Art Unit 3722

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with attorney Mr. Michael D. Turner on Wednesday, 20 December 20, 2006.

The application has been amended as follows:

Claims:

(a) Claim 1, line 22, the phrase "to a range of at least 0.001 inches" has been changed so as to read --to a range of 0.001 inches--.

(b) Claim 28, line 19, the phrase "to a range of at least 0.001 inches" has been changed so as to read --to a range of 0.001 inches--.

(c) Claim 29, line 13, the phrase "a tolerance range of at least 0.001 inches" has been changed so as to read --a tolerance range of 0.001 inches--.

(d) Claim 34, lines 1 through 2, the claim dependency "of claim 1" should be changed so as to read --of claim 9-- and the phrase "of at least 0.008 inches" should be changed so as to read --within a range of 0.008 to 0.012 inches--.

(e) Claim 35, lines 1 through 2, the claim dependency "of claim 1" should be changed so as to read --of claim 10-- and the phrase "of 0.008 to 0.020 inches" should be changed so as to read --within a range of 0.015 to 0.020 inches--.

NOTES: For (a),(b) and (c), the above changes were necessary to provide for a fixed maximum tolerance range consisting of any combination of plus or minus tolerance values, when added together, does not exceed the range of 0.001 inches.

For (d) and (e), these above changes were necessary to provide proper antecedent basis between depending claims and to identify the specific ranges having the required support from the disclosed specification (page 10).

2. The following is an examiner's statement of reasons for allowance:

Claims 1-5,7-31 and 33-38 are allowed.

Claims 1,28 and 29 are the independent claims.

3. Regarding claims 1,28 and 29, the prior art of record fails to anticipate or make obvious (1) "wherein the body includes at least one cylindrical margin formed thereabout for providing bearing support to the reamer within the hole being formed" and (2) "thereby improving tolerances of the cutting operations to a range of 0.001 inches", in combination with, a reamer for enlarging a pre-existing hole by rotational and axial cutting in a first hand rotational direction having a longitudinal shank for supporting a body, a longitudinal body extending axially from the shank, at least one first flute (straight) with at least one first flute cutting edge for imparting a first cutting operation, at least one helical flute with at least one helical flute cutting edge formed at an angle relative to the axis of rotation that is greater than the at least one first flute and formed in a second hand rotational direction opposite to the first rotational direction, a leading portion of the at least one first flute and the at least one helical flute cutting edges generally lie in a common plane, and one helical flute cutting edge radially spaced apart from the at least one first flute cutting for imparting a helical cutting operation so as to concurrently and collectively perform the first and helical cutting operations.

Yeo '316 is the closest art of record.

Yeo '316 shows in Figure 1 a rotary cutting tool (10 and col. 1, line 61 through col. 2, line 2) having a shank (12) for rotation in a first hand direction (15), a cylindrical body extending axially from shank having at least one first flute (28) with at least one first flute cutting edge (36)

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in a distal end (40) of the body, the body having at least one helical flute (16,18) formed therein at an angle relative to an axis of rotation that is greater than that of the at least one first flute (col. 2, lines 51-54 and col. 3, lines 10-13) and being formed in a second hand rotational direction opposite to the first hand directional rotation. Yeo '316 shows the at least one helical flute having at least one helical flute cutting edge (24,26) spaced radially apart from the at least one first flute cutting edge so that a leading portion of the cutting edges generally lie in a common radial plane. Yeo '316 shows the at least one first flute and first flute cutting edge being straight relative to the axis of rotation when the helix angle is approximately a 1 degree helix (col. 3, lines 10-13) and therefore equivalent to that defined by the Applicant in the specification (page 8, lines 15-24). Yeo '316 shows a cylindrical margin (20,22,42), a longitudinal margin (42) generally aligned with the at least first flute, and a helical margin (20,22) generally aligned with the at least one helical flute.

Yeo '316 lacks a reamer for enlarging a pre-existing hole by rotational and axial cutting having (1) "wherein the body includes at least one cylindrical margin formed thereabout for providing bearing support to the reamer within the hole being formed" and (2) "thereby improving tolerances of the cutting operations to a range of 0.001 inches".

Although it is well known to have "margins formed thereabout for providing bearing support to the cutting tool" and "to select a specific tolerance range to meet industry standards", there is no teaching in the prior art of record that would, reasonably and absent impermissible hindsight, motivate one having ordinary skill in the art to so modify the teachings of Yeo '316, noting that in Yeo '316, the reference is silent as to whether or not the margins "provide bearing support to the cutting tool" and to a cutting operation tolerance "range of 0.001 inches". Thus, for at least the foregoing reasons, the prior art of record neither anticipates nor rendered obvious the present invention as set forth in independent claims 1,28 and 29.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Conclusion

4. Any inquiry concerning the content of this communication from the examiner should be directed to Michael W. Talbot, whose telephone number is 571-272-4481. The examiner's office hours are typically 8:30am until 5:00pm, Monday through Friday. The examiner's supervisor, Mrs. Monica S. Carter, may be reached at 571-272-4475.

In order to reduce pendency and avoid potential delays, group 3720 is encouraging FAXing of responses to Office Actions directly into the Group at FAX number 571-273-8300. This practice may be used for filling papers not requiring a fee. It may also be used for filing papers, which require a fee, by applicants who authorize charges to a USPTO deposit account. Please identify Examiner Michael W. Talbot of Art Unit 3722 at the top of your cover sheet.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


MWT
Examiner
20 December 2006


Daniel W. Howell
Primary Examiner
Art Unit 3722